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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/090,315	06/04/1998	HOWARD E. RHODES	M4065.059/P0	3755

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DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street, NW
Washington, DC 20037

EXAMINER	
GEBREMARIAM, SAMUEL A	
ART UNIT	**PAPER NUMBER**
2811	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/090,315	RHODES ET AL.	
	Examiner	Art Unit	
	Samuel A. Gebremariam	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4,7-16,28,29 and 31-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4,7-16,28,29 and 31-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 28-29, 31 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Ogawa.

Regarding claim 28, Ogawa teaches (figs, 15 and 16) an imaging device, comprising: a housing (95c) having a cavity (region where 90 is situated) defined by sidewalls (sidewalls 95b) and a bottom surface (bottom surface of 95c); a semiconductor imaging chip (90) located within the cavity of the housing, the semiconductor imaging chip having an array of photosensitive elements (90a, fig. 15) configured to receive and generate a corresponding image signal (operating characteristics of an imaging device), the photosensitive elements being covered by a transparent cover (95c); the semiconductor imaging chip (90) being encapsulated in a transparent material (95c, transparent resin), wherein the transparent material (95c) is disposed within the cavity and is contained by the sidewalls of the housing (refer to fig. 16, where 95b bends on both sides); and an optical light transmitting device (95d) supported in line with an image being received by the photosensitive elements (90a).

Regarding claim 29, Ogawa teaches the entire claimed structure of claim 28 above including the transparent cover includes color filter (refer to col. 12, lines 25-29).

Regarding claim 31, Ogawa teaches (figs. 15 and 15) the entire claimed structure of claim 28 above including the housing is formed of molded plastic (95, transparent resin).

Regarding claim 32, Ogawa teaches the entire claimed structure of claim 7 above including the optical light-transmitting device (95d) is a lens (fig. 16).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

4. Claim 7-8, 2-4, 9-10 and 34 are rejected under 35 U.S.C. 103(a) as being as being unpatentable over Ogawa, US patent No. US 6,291,811 in view of Mantell US patent No. 5,378,916.

Regarding claim 7, Ogawa teaches an imaging device (figs. 15 and 16) comprising: a frame (91a) having a support structure (91c), a semiconductor imaging chip (90) supported by the support structure (91c); the semiconductor imaging chip having an array of photosensitive elements 90a, fig. 15) configured to receive and generate a corresponding image signal (inherent property of imaging device), a

package (95c) encapsulating the frame (91d), support structure (91c), and semiconductor imaging chip (90) in a transparent material, the transparent material covering the chip, the photosensitive elements receiving the image through the transparent material (refer to fig. 16); and an optical light transmitting device (95d) supported in line with an image being received by the photosensitive elements (90a) of the semiconductor imaging chip.

Ogawa does not explicitly state that at least a portion of the transparent material is tinted to provide colored light filtering.

Mantel teaches (refer to col. 7, lines 57-69 and col. 8, lines 1-6) the possibility of combining color filters with the photosensitive regions.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a color filter structure taught by Mantel in the structure of Ogawa in order to be able to image full color images.

The limitation that the imaging chip is tinted to provide colored light filtering is not given patentable weight, because it is considered a product-by-process claim. "[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claim 2, Ogawa teaches substantially the entire claimed structure of claim 7 above including the photosensitive elements are arranged in a two dimensional array (refer to fig. 13).

Regarding claim 3, Ogawa teaches substantially the entire claimed structure of claim 7 above including the transparent material (95c) includes molded epoxy (transparent synthetic resin) resin.

The limitation that the transparent material is injection-molded epoxy is not given patentable weight, because it is considered a product-by-process claim. "[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claim 4, Ogawa teaches substantially the entire claimed structure of claim 7 above including leads (91d) connected to the semiconductor material, the leads being partially encapsulated in the transparent material (95c).

Regarding claim 8, Ogawa teaches substantially the entire claimed structure of claim 7 above including the optical light-transmitting device (95d) is formed of the transparent material (95c).

Regarding claim 9, Ogawa teaches substantially the entire claimed structure of claim 7 above including the optical light-transmitting device is a lens (95d) being formed of the transparent material (95).

Regarding claim 10, Ogawa teaches substantially the entire claimed structure of claim 7 above including a color filter array into the transparent material (refer to col. 12, lines 25-29).

Regarding claim 34, Ogawa teaches substantially the entire claimed structure of claim 7 above including the optical transmitting device is color filter being supported separated from the package of the transparent material (refer to col. 7, lines 57-69 and col. 8, lines 1-6, Mantell).

5. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Elabd et al., US patent No. 4,663,656.

Regarding claim 11, Ogawa teaches substantially the entire claimed structure of claim 7 above including (figs. 15 and 16) an imaging device including a semiconductor device including an array of photosensitive elements, the semiconductor device being mounted on a frame (91a), the frame having a support structure (91c), the semiconductor device receiving the image and generate corresponding signal (inherent property of an imaging device), the frame (91a), the support structure (91c) and the semiconductor device (90) is encapsulated in a package (95c) for protecting and supporting the semiconductor device, the package being formed of a transparent material (transparent resin).

Ogawa does not teach a transmitting system for transmitting an image source, the transmitting being arranged to transmit the entire image simultaneously onto each of a plurality of imaging devices.

Elabd teaches (fig. 1) an imaging system for transmitting an image source (the dashed lines in fig 1), the image source (7) being arranged to transmit the image simultaneously onto each of a plurality of imaging devices (imager 1 and imager 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image transmitting system to transmit the entire image simultaneously onto each of a plurality of imaging devices taught by Elabd in the structure of Ogawa in order to improve color discrimination property of the device.

The limitation that the transparent plastic material is injection-molded resin is not given patentable weight, because it is considered a product-by-process claim. "[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claim 12, Ogawa teaches substantially the entire claimed structure of claim 11 above including the image source includes a lens (7, Elabd, col. 6, lines 57-69).

Regarding claim 13, Ogawa teaches substantially the entire claimed structure of claim 11 above including the imaging devices include complementary color filters (4, Elabd, fig. 1).

Regarding claim 14, Ogawa teaches substantially the entire claimed structure of claims 11 and 10 above the complementary color filters (full color, col. 13, line 64-, col. 14, line 3) are molded into the packages (refer to col. 12, lines 25-29).

Regarding claim 15, Ogawa teaches substantially the entire claimed structure of claims 11 and 13 above including the packages include red, green and blue filters (full color, col. 13, line 64-, col. 14, line 3).

Regarding claim 16, the combined structure of Ogawa teaches substantially the entire claimed structure of claim 11 above except explicitly stating that the packages include cyan, magenta and yellow filters.

Cyan, magenta and yellow colors are fundamental colors that all colors are formed from. Furthermore cyan, magenta and yellow color filters are conventional in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form color filters based on the primary colors as claimed in the structure of Ogawa in order to selectively transmit light of particular wavelength.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Chun, US patent No. 5,644,169

Regarding claim 33, Ogawa teaches substantially the entire claimed structure of claim 28 above except explicitly stating that the housing is formed of a ceramic material

Chun teaches housing for a package that uses ceramic material (col. 1, lines 36-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ceramic housing taught by Chun in the structure of Ogawa in order to improve heat dissipation of the device.

Regarding claim 35, Ogawa teaches substantially the entire claimed structure of claim 28 above except explicitly stating the transparent material has an uppermost surface substantially planar to an uppermost surface of the sidewalls of the housing.

It is conventional and also taught by Chun (fig. 3), forming transparent material (15) has an uppermost surface substantially planar to an uppermost surface of the sidewalls of the housing (housing provided for chip 11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the housing arrangement taught by Chun in the structure of Ogawa in order to simplify the packaging process.

Response to Arguments

7. Applicant's arguments filed on 8/4/2004 with respect to claims 2-4, 7-16, and 28-34 have been considered but are not persuasive. With respect to claim 28, applicant argues, Ogawa does not teach a housing having a cavity defined by side walls and a bottom surface and 'a semiconductor imaging chip located within said cavity of said housing, said semiconductor imaging chip including an array of photosensitive elements configured to receive an image and generate corresponding signals, said photosensitive elements being covered by a transparent cover. The semiconductor-imaging chip is

encapsulated in a transparent material. The transparent material "is disposed within said cavity and is contained by said sidewalls of said housing. However clearly shown figure 16, Ogawa teaches the claimed limitation as shown in rejected claim 28. The fact that Ogawa refers to the various device elements different from the claimed invention does not imply the claims are not anticipated. With regards to claims 2-4, 7-16 and 33 refer to the new rejection provided above.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Admassu Gebremariam whose telephone number is 703 305 1913. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Loke can be reached on (571) 272-1732. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Samuel Admassu Gebremariam
September 6, 2005

Steven Loke
Primary Examiner
Steven Loke